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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/413,984	10/07/1999	TOSHIYA KITAMURA	990630/HG	2673

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EXAMINER	
DOVE, TRACY MAE	
ART UNIT	**PAPER NUMBER**
1745	23

DATE MAILED: 09/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

A523

Office Action Summary	Application No.	Applicant(s)	
	09/413,984	KITAMURA, TOSHIYA	
	Examiner	Art Unit	
	Tracy Dove	1745	

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for R ply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 July 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4,6-8,10,12 and 14-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,6-8,10,12 and 14-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

This Office Action is in response to the communication filed on 7/21/03. Applicant's arguments have been considered, but are not persuasive. Claims 1, 2, 4, 6-8, 10, 12 and 14-24 are pending. This Action is made **FINAL**, as necessitated by amendment.

Claim Objections

The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 18-23 have been renumbered as claims 19-24.

Claims Analysis

Note the phrase "conventional alloyed zinc powder" in the claims is limited to the definition provided in the instant specification. Page 2, lines 3-6 states that a "conventional alloyed zinc powder" is a zinc alloy including at least one component selected from the group consisting of Al, Bi, In, Ga, Sn and Pb.

Claims 1, 2, 6-8, 12 and 19-24 recite "a powder of Bi". The specification teaches the negative active material is a mixture of a trivalent metal and an alloyed zinc powder (see page 3, lines 1-4). The specification further states the trivalent metal is an oxide of the trivalent metal (page 3, lines 16 and 22; page 4, lines 18 and 23). Thus, the claims will be interpreted as if they recited "a powder of trivalent Bi" (encompasses bismuth oxide).

Double Patenting

The double patenting rejection has been withdrawn. A proper terminal disclaimer was filed on 7/21/03.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6, 7, 12, 15-17, 19, 21, 22 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Shinoda et al., US 5,376,480.

Shinoda teaches an alkaline battery having a negative electrode produced without mercury. The negative electrode of Shinoda enables uniform dispersion of zinc or zinc alloy powder and an effective metal which can be one or more of an oxide or hydroxide of indium, lead, gallium or bismuth. The zinc or zinc alloy powder and the effective metal are dry mixed in advance of mixing with an alkaline electrolyte. See abstract. When the effective metal and the zinc alloy powder is put in the alkaline electrolyte in the mixed (dry) condition, the stirring period required for obtaining uniform mixing and distribution can be significantly shortened (col. 3, lines 8-12). While the effective metal used in the Examples of Shinoda is indium, Shinoda teaches the various metallic materials (such as bismuth) to form the effective metal are obvious to those skilled in the art (col. 4, lines 53-61). Shinoda teaches zinc alloys such as zinc alloyed with lead, aluminum, indium, gallium and/or bismuth (conventional alloyed zinc) (col. 1, lines 26-32).

Thus the claims are anticipated.

Note claims 15-17 are further limiting the "conventional" alloyed zinc powder. Thus, these claims are considered admitted prior art by Applicant.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 4, 8, 10, 14, 18, 20 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinoda et al., US 5,376,480.

Shinoda teaches an alkaline battery having a negative electrode produced without mercury. The negative electrode of Shinoda enables uniform dispersion of zinc or zinc alloy powder and an effective metal which can be one or more of an oxide or hydroxide of indium, lead, gallium or bismuth. The zinc or zinc alloy powder and the effective metal are dry mixed in advance of mixing with an alkaline electrolyte. See abstract. When the effective metal and the zinc alloy powder is put in the alkaline electrolyte in the mixed (dry) condition, the stirring period required for obtaining uniform mixing and distribution can be significantly shortened (col. 3, lines 8-12). While the effective metal used in the Examples of Shinoda is indium, Shinoda teaches the various metallic materials (such as bismuth) to form the effective metal are obvious to those skilled in the art (col. 4, lines 53-61). Shinoda teaches zinc alloys such as zinc alloyed with lead, aluminum, indium, gallium and/or bismuth (conventional alloyed zinc) (col. 1, lines 26-32).

Shinoda does not explicitly teach the amount of or particle size of bismuth dry mixed with the zinc alloy.

However, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made because Shinoda teaches that the indium used in Example 1 has an average size of 5 μm and was added in an amount of 0.02 wt % indium based on the weight of the zinc alloy powder. One of skill would find it obvious to use a similar particle size and weight percent of bismuth in view of the teachings of Shinoda regarding the addition of indium. Shinoda teaches and suggests that bismuth may be used as the effective metal (see col. 4, lines 52-61).

Response to Arguments

Applicant argues that a powdered gelling agent is not required by the claimed invention. However, Shinoda teaches that the gelling agent is optional (as admitted by Applicant on page 5 of the amendment). Applicant further argues that Shinoda does not address the fact that "a simple dry mixture itself of a conventional alloyed zinc powder and a powder of Bi as an additional metal is extremely useful for employment as a negative electrode active material for utilization in an alkaline cell, because it enables production of an alkaline battery whose gas generation is greatly improved". However, only claims 6, 12, 18, 21 and 24 contain a limitation regarding "low gas generation". Furthermore, the claims are directed to a negative electrode active material and method of preparing the negative electrode active material. The low gas generation is a property of the alkaline cell and thus is not given patentable weight. The gas (hydrogen) in generated when the zinc negative electrode active material contacts the electrolyte of the alkaline cell.

Applicant argues that Shinoda teaches an alkaline battery in which a fiber material is used. Examiner points out that only claims 19-24 recite "consists essentially of" language. The remaining claims recite "comprising" language, which does not exclude a fiber material being used. Furthermore, the fiber material is not contained in the negative electrode active material (part of gelled negative electrode). The active material of Shinoda is the zinc or zinc alloy powder and the effective metal that are dry mixed in advance of mixing with an alkaline electrolyte to form the gelled negative electrode. The abstract of Shinoda states "fiber material can be added", which indicates the fiber material is optional.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is (703) 308-8821. The Examiner may normally be reached Monday-Thursday (9:00 AM-7:30 PM). My supervisor is Pat Ryan, who can be reached at (703) 308-2383. The Art Unit receptionist can be reached at (703) 308-0661 and the official fax numbers are 703-872-9310 (after non-final) and 703-872-9311 (after final).

Patrick Ryan
Supervisory Patent Examiner
Technology Center 1700

September 3, 2003